While we have shown and described specific embodiments of the present invention, further modifications and improvements will occur to those skilled in the art. We desire it to be understood, therefore, that this invention is not limited to the particular forms shown and we intend in the appended claims to cover all modifications that do not depart from the spirit and scope of this invention.

What is claimed is:

1. A passivated organic device comprising:

a supporting transparent plastic substrate, overcoated with alternating layers of at least one transparent polymer film layer and at least one dielectric material layer;

an organic emissive layer formed on the supporting plastic substrate defining a plurality of pixels; and

a sealing layer positioned to seal the organic device.

2. A passivated organic device as claimed in claim 1 wherein the at least one polymer film layer is comprised of at least one of fluorinated polymers, parylenes or cyclotenes.

3. A passivated organic device as claimed in claim 1 wherein the at least one transparent dielectric material layer is comprised of at least one of silicon monoxide, silicon oxide, silicon dioxide or silicon nitride.

4. A passivated organic device as claimed in claim 1 wherein the plastic substrate overcoated with alternating layers of at least one polymer film layer and at least one dielectric material layer is overcoated on at least one planar surface.

5. A passivated organic device as claimed in claim 1 wherein the plastic substrate overcoated with alternating layers of at least one polymer film layer and at least one dielectric material layer is overcoated on all planar surfaces, thereby encapsulating the plastic substrate.

6. A passivated organic device as claimed in claim 1 further comprised of an overcoating layer of stable metal, capping the plurality of pixels, a buffer system including an overcoating layer of organic material coating the layer of stable metal, capping the pixels, and a low permeability inorganic layer positioned on the buffer system.

7. A passivated organic device as claimed in claim 6 wherein the overcoating layer of stable metal includes indium.

8. A passivated organic device as claimed in claim 6 wherein the buffer system further includes a thermal coefficient matching layer positioned on the buffer layer.

9. A passivated organic device as claimed in claim 6 wherein the buffer layer of organic material includes an organic polymer.

10. A passivated organic device as claimed in claim 1 wherein the sealing layer includes at least one of a layer of polymer coated metal foil, an epoxy encapsulant, a metallized plastic or a metal can formed over the organic device.

11. A passivated organic device as claimed in claim 1 wherein the sealing layer includes alternating layers of at least one polymer and at least one metal deposited over the organic device.

12. A passivated organic device comprising:

a supporting transparent plastic substrate, overcoated with alternating layers of at least one polymer film layer comprised of at least one of fluorinated polymers, parylenes or cyclotenes, and at least one dielectric material layer comprised of at least one of silicon monoxide, silicon oxide, silicon dioxide or silicon nitride;

an organic emissive layer formed on the supporting plastic substrate defining a plurality of pixels; and

a sealing layer positioned to seal the organic device.

13. A passivated organic device as claimed in claim 12 wherein the plastic substrate overcoated with alternating layers of at least one polymer film layer and at least one dielectric material layer is overcoated on at least one planar surface.

14. A passivated organic device as claimed in claim 12 wherein the plastic substrate overcoated with alternating layers of at least one polymer film layer and at least one dielectric material layer is overcoated on all planar surfaces, thereby encapsulating the plastic substrate.

15. A passivated organic device as claimed in claim 12 further comprised of an overcoating layer of stable metal, capping the plurality of pixels, a buffer system including an overcoating layer of organic material coating the layer of stable metal, capping the pixels, and a low permeability inorganic layer positioned on the buffer system.

16. A passivated organic device as claimed in claim 15 wherein the buffer system further includes a thermal coefficient matching layer positioned on the overcoating layer of organic material.

17. A passivated organic device as claimed in claim 12 wherein the sealing layer includes at least one of a layer of polymer coated metal foil, an epoxy encapsulant, a metallized plastic encapsulant or a metal can formed over the organic device.

18. A passivated organic device as claimed in claim 12 wherein the sealing layer includes alternating layers of at least one polymer and at least one metal formed over the organic device.

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